

### **REMARKS**

This Amendment is in response to the Office Action dated December 22, 2010. In the office action, an election of species requirement was issued. Claim 18 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Valdez et al. (WO 97/20185, "Valdez"). Claims 19-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Valdez in view of Beal (WO 00/73728) and Chene (EP 0 997 700), Hadler (DE 102 39 910) and Dinkha et al. (US 4,939,996).

By the present amendment, claims 18-21, 23, and 24-31 have been amended for consistency of terminology. New claims 32-37 have been added.

In response to the election of species requirement, the Applicants elect Species A depicted for examination (an example embodiment of which is depicted in Figure 1). The Applicants respectfully submit that claim 18 is a generic claim (page 2 of the office action states that "claim 1 appears to be generic", however claim 1 has been cancelled, and the statement appears to be a typographical error).

The Applicants also note the statement in page 2 of the office action, the Examiner states that "[u]pon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in the dependent form or otherwise require all the limitations of an allowed generic claim."

At entry of this paper, in light of the election of Species A (an example embodiment of which is depicted in Figure 1) for examination, claims 18, 19, and 21-29 will be pending for further consideration and examination in the application.

Claims 20 and 30-33 have been withdrawn (new claims 32-33 fall under Species B, an example embodiment of which is depicted in Figure 2. Claim 20 fall under Species C, an example embodiment of which is depicted in Figure 3. Claims 30 and 31 fall under Species D, an example embodiment of which is depicted in Figure 4).

All rejections are traversed, in so far as the rejections are applicable to the present claims. Reconsideration and allowance of this application, as amended, is respectfully requested.

Support for new claims 32 and 33 can be found, for example, in paragraph [0026] of the application's U.S. PG-PUB 2009/0293755), which states: "[0026] The embodiment according to FIG. 2 is comparable with that according to FIG. 1. The difference is that the tail core 14 and the jacket 15 are integral. The jacket 15 has been formed, by deep-drawing, from the material of the tail core 14 and surrounds the nose core 4, which consists of compressed powder 5 and forms the bullet tip 8. The advantages are similar to those of the bullet described in FIG. 1."

Support for new claims 34-37 can be found, for example, in Fig. 1 and associated text in the specification, and also in previously presented claims 1, 19, 21, and 26, respectively.

### **REJECTIONS UNDER 35 USC §103**

In regards to the rejection of claim 1, Valdez (WO 97/20185) does not disclose, suggest, or otherwise render obvious the following features: "another bullet core comprises powder made from a ceramic material, in that a particle size of the powder is between 5  $\mu$ m and 1 mm, and in that the powder is compressed so as to be without cavities."

Valdez discloses a small caliber bullet with two cores, and that a core in the bullet tip is composed of a hard metal, such as iron, tungsten, molybdenum or alloys thereof, and that a second core made of a soft material is arranged behind the core in the bullet tip. According to Valdez, the second core can be made of, for example, of a pressed or sintered metallic or nonmetallic powder "with a low crush strength

and a high flow rate in compression such as calcium carbonate, selected waxes and selected polymers” (see page 9 of Valdez).

As an example of a non-metallic powder, calcium carbonate is given. However, Valdez does not disclose, suggest, or otherwise render obvious that the second core comprises powder made from a ceramic material. While Valdez discloses on page 9 that the powder of the second core does not need to be a metallic powder, the suggestions made point away from the use of a ceramic powder. Calcium carbonate is not a ceramic material. Waxes, polymers and high viscosity greases, which are suggested as further materials for producing a core, also would not make it obvious to one skilled in the art to use a ceramic powder.

In addition, Valdez does not disclose, suggest, or otherwise render obvious the recited feature of claim 18 that “particle size of the powder is between 5  $\mu$ m and 1 mm.”

Valdez discloses in page 10, lines 20 through 22, in regards to the first core, that “[a]pproximately, 90% of the copper particles have an average diameter of from 3 microns to 50 microns.” This disclosure relates to the particles sizes of the material of the “first core 12,” that is, the solid core, and is directed to metallic (copper) particles, not ceramic particles. In addition, Valdez’s range only partially overlaps with the claimed range, and does not extend to particles as large as 1 mm.

Valdez further discloses in page 10, lines 17 through 20, in regards to the first core, that “[i]n a typical powder sample, approximately 80% of the ferro-tungsten particles have an average diameter of from 40 microns to 500 microns.” This disclosure relates to the particles sizes of the material of the “first core 12,” that is, the solid core, and is directed to metallic (ferro-tungsten) particles, not ceramic

particles. In addition, Valdez's range only partially overlaps with the claimed range, and does not extend to particles as large as 1 mm or as small as 5  $\mu\text{m}$ .

Therefore, the 40  $\mu\text{m}$  to 500  $\mu\text{m}$  range of particle sizes given in line 19 relates to iron-tungsten powder, and the 3  $\mu\text{m}$  to 50  $\mu\text{m}$  range of particle sizes given in line 21 relates to copper particles. The applicants respectfully submit that It is not evident why one skilled in the art should take these particle sizes, which relate to metallic materials used in the first (hard) core, as a gauge for a very different range of particle sizes, of a ceramic material, to be used in the second (soft) core of the bullet according to the invention claimed in claim 18. For this reason, Valdez does not disclose, suggest, or otherwise render obvious the feature recited in claim 18 of: "another bullet core comprises powder made from a ceramic material, in that a particle size of the powder is between 5  $\mu\text{m}$  and 1 mm."

Finally, in regards to claim 18, Valdez does not disclose, suggest, or otherwise render obvious the claimed features of: "and in that the powder is compressed so as to be without cavities." In regards to this claimed feature, compression of the powder so as to be without cavities prevents inhomogeneities, regions of different density, and pores referred to as cavities. This is particularly important in order to assure the correct position of the center of gravity of the bullet, and in order to obtain a uniform disintegration of the core. This feature, in particular for a ceramic powder, is not disclosed, suggested, or otherwise rendered obvious in Valdez.

Therefore, for all of the reasons discussed in the preceding paragraphs, the 35 U.S.C. § 103(a) rejection of claim 18 under Valdez should be withdrawn, and claim 18 should be allowed.

In regards to dependent claims 19, and 21-29, these claims depend from allowable claim 18, and should be allowed at the very least because they depend from allowable claim 18. In regards to withdrawn dependent claims 20 and 30-33, these claims all depend from allowable generic claim 18, and therefore the election requirement applied to these claims should be withdrawn. These claims dependent from an allowable independent and generic claim, and therefore claims 20 and 30-33 should be allowed for at least this reason.

In regards to new independent claim 34, all of the arguments presented in regards to claim 18 are also applicable to claim 34. In regards to new dependent claims 35-37, all of the arguments presented in regards to the claims that depend from claim 18 are also applicable to the claims that depend from claim 34.

Further in regards to all dependent claims, none of the Beal, Chene, Hadler, and Dinkha references, either individually or in combination, remedy all of the deficiencies of Valdez in regards to claim 18.

Beal discloses a bullet, which in the bullet tip has a hard metal core as a penetrator, and in which the second core is composed of a cold pressed mixture of hard metal powder, for example, tungsten, and a light metal power, for example, tin, wherein a binder is added to the mixture.

Chene discloses a method for producing a low pollutant jacketed bullet, and a bullet produced accordingly. The bullet has a core of a mixture of tungsten powder and a lubricant and slip agent (for example, calcium stearate). The core is sealed at the end of the bullet by a balancing mass and sealing compound, for example, tin, which does not have the function of a core, however.

Hadler discloses a jacketed disintegrating hunting bullet, the core of which is composed of metallic balls or metallic granules of a size of 1 mm up to 12 mm,

wherein the metallic balls or metallic granules are pressed free from cavities and set rupture points are thereby produced in the core.

Dinkha discloses a bullet, the core of which is composed entirely of a sintered, and therefore not powdery, ceramic.

In view of the foregoing amendments and remarks, Applicant respectfully submits that all the claims listed above as presently being under consideration in the application are now in condition for allowance.

#### **EXAMINER INVITED TO TELEPHONE**

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

#### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Antonelli, Terry, Stout & Kraus, LLP Deposit Account No. 01-2135 (Docket No. 520.46203X00), and please credit any excess fees to such deposit account.

Respectfully submitted,  
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